SLOVENSKI STANDARD
SIST EN 12720:2009

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Pohiġtvo - Ocenjevanje odpornosti povrġine proti hladnim tekoļ inam

Furniture - Assessment of surface resistance to cold liquids

Möbel - Bewertung der Beständigkeit von Oberflächen gegen kalte Flüssigkeiten

Meubles - Évaluation de la résistance de la surface aux liquides froids

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97.140	Pohištvo	Furniture

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EUROPEAN STANDARD

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English Version

Furniture - Assessment of surface resistance to cold liquids

Meubles - Évaluation de la résistance de la surface aux liquides froids

Möbel - Bewertung der Beständigkeit von Oberflächen gegen kalte Flüssigkeiten

This European Standard was approved by CEN on 3 January 2009.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN 12720:2009) has been prepared by Technical Committee CEN/TC 207 “Furniture”, the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2009, and conflicting national standards shall be withdrawn at the latest by August 2009.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12720:1997.

Informative Annex C provides details of significant technical changes between this European Standard and the previous edition.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European standard specifies a method for the assessment of the resistance to cold liquids of all rigid furniture surfaces regardless of materials.

It does not apply to leather and textile surfaces.

The test is intended to be carried out on a part of the finished furniture, but can be carried out on test panels of the same material, finished in an identical manner to the finished product, and of a size sufficient to meet the requirements of the test.

The test shall be carried out on unused surfaces.

The type and number of test liquids (Annex A) and the test periods (Table 1) shall be stated in requirement specifications or shall be agreed upon between purchaser and supplier or interested parties.

Annex A (normative) includes a selection of suitable test liquids. Other liquids can be used if required.

Annex B (informative) describes a direct light source.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN ISO 105 – E04:1996, *Textiles – Tests for colour fastness – Part E04: Colour fastness to perspiration (ISO 105-E04:1994)*

ISO 1065:1991, *Non-ionic surface-active agents obtained from ethylene oxide and mixed non-ionic surface-active agents – Determination of cloud point*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
test panel
panel including the test surface

NOTE It may be cut from a finished item of furniture or it may be a separate panel produced in the same manner as the finished item of furniture.

3.2
test surface
part of the test panel

3.3
test area
part of the test surface under the glass Petri dish (5.2)

4 Principle

Discs saturated with the test liquids are placed on the test surface and covered by a glass Petri dish. After a specified test period, the discs are removed and the test surface is left for 16 h to 24 h. Thereafter, the test surface is cleaned and examined for damages such as discolouration, change in gloss, change in colour, blistering and swelling. The test result is stated in a numerical rating code.

5 Apparatus and materials

5.1 Discs

Discs with a diameter of (25 ± 2) mm, of soft filter paper with a grammage of 400 g/m² to 500 g/m², without colouring agent and glue.

5.2 Glass Petri dish

Glass Petri dish with ground edges and without lips, external diameter (40 ± 2) mm, and height (25 ± 2) mm.

5.3 Tweezers

5.4 Absorbent paper or tissue

5.5 Cleaning cloth

White soft absorbent cloth.

5.6 Diffuse light source

Light source providing evenly diffused light giving an illumination on the test surface of (1200 ± 400) lx. This may either be diffused daylight or be diffused artificial daylight.

NOTE The daylight should be unaffected by surrounding trees, etc. When artificial daylight is used it is recommended that it should have a correlated colour temperature of (6500 ± 50) K and an R_a greater than 92, by using a colour matching booth in accordance with EN ISO 3668:2001. [1]

5.7 Test liquid

Examples of the test liquids are given in Annex A (normative).

5.8 Deionized or distilled water

5.9 Cleansing solution

Solution containing 15 ml/l of the cleansing agent (5.10) in water (5.8). The solution shall be discarded after one day.

5.10 Cleansing agent

Cleansing agent of the following composition:

a) 12,5% (*m/m*) of a sodium primary C_{10} to C_{14} polymer alkyl aryl sulphonate,

b) 12,5% (*m/m*) polyethoxylated derivatives of primary or secondary C_8 to C_{16} alcohols with 5 to 15 ethoxylated groups having a cloud point of 25 °C to 75 °C in 1% (*m/m*) aqueous solution (determination of cloud point is described in ISO 1065:1991),

c) 5,0% (*m/m*) ethanol,

d) 70% (*m/m*) water (5.8).

The cleansing agent shall be stored in a glass bottle in a cool dark place and shall be used within one year of the day of preparation.

6 Preparation and conditioning

6.1 Conditioning

Conditioning of test surface shall begin at least one week before testing and shall be carried out in air at a temperature of (23 ± 2) °C and relative humidity of (50 ± 5) %.

The conditioning time shall be stated in the test report.

6.2 Test surface

The test surface shall be substantially flat and of a size sufficient to meet the requirements of Clause 7 regarding the separation of the discs (5.1).

7 Test procedure

7.1 Testing

Immediately after conditioning, the test shall be carried out in a test atmosphere of (23 ± 2) °C.

The test surface shall be placed horizontally. It shall be tested with the chosen test liquids at points which shall be not less than 60 mm apart, from centre to centre, and if possible, with centres not less than 40 mm from any edge of the test surface. If there is any reason to suppose that the properties of the test surface may vary, two tests shall be carried out.

The test surface shall be lightly wiped with a cleaning cloth (5.5) before testing.

Use clean tweezers for each type of liquid.

Immerse a disc (5.1) into the test liquid (5.7) between 30 s and 60 s, lift with the tweezers (5.3) and quickly wipe off the edge of the disc once against the edge of the vessel. Quickly place it on the test surface and immediately cover with an inverted glass Petri dish (5.2). The filter paper shall not be in contact with the edge of the glass Petri dish.

Record the position of each test liquid.

After the test period, remove the glass Petri dish and lift off the disc with the tweezers. Do not remove fibres of paper adhering to the test surface. Soak up any remaining test liquid with the absorbent paper (5.4) without rubbing and leave the test surface undisturbed for 16 h to 24 h in the test atmosphere without covering it. The test surface shall be sufficiently protected against dust without limiting in any way the free access of air.

After the above 16 h to 24 h, wash the test surface by lightly rubbing it with the cleaning cloth (5.5) soaked first in cleansing solution (5.9) and then only water (5.8). Finally wipe the surface lightly with a dry cleaning cloth (5.5).